



# ACCOUNTANTS AND AUDITORS' PERFORMANCE MEASUREMENT USING BALANCED SCORECARD: AN EXPLORATORY STUDY AT WASIT GOVERNORATE' DIRECTORATES

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Article history:		Abstract:
Received:	28 <sup>th</sup> April 2025	It is mostly the custom when evaluating the performance of the administrative units and its employees by the traditional methods, so an incomplete and unrealistic image is shown , this necessitate the adoption of some modern methods of evaluation, that include the balance scorecard ( BSC ). The study aims to explain the balanced performance card , and then to assess the efficiency of the of accountants and auditors' professional performance in the administrative units operating in Wasit Governorate. To achieve the mentioned goal, a questionnaire has been adopted and distributed to the members of the stud sample, that consists of the administrative units working under Wasit Governorate leadership . The sample consists of 71 accountants and auditors employed the mentioned administrative units . Using the SPSS package to analyze and test the hypothesis , the study found a high correlation between the two variables . So, in the light of the drawn conclusions , a set of recommendations was set . The most important one is the need to apply the BSC in evaluating the performance of accountants and auditors at Wasit Governorate' administrative units, and to develop a BSC culture within the organizational culture of the mentioned governorate.
Accepted:	26 <sup>th</sup> May 2025	

**Keywords:** Balanced Scorecard; Accountants' Performance Measurement; Auditors' Performance Measurement; Wasit Governorate

## INTRODUCTION.

Following the abundant literature available in accounting accounting, specifically the part related to the foundations and principles of financial accounting, we find that one of its basic aspects is the professional dimension. Measuring and evaluating performance is a core competence that need to be learnt and developed during the job practice or the professional carrier, so creativity and resining professional competence of the accountant and auditor are of first priority. Developing of the accounting and auditing profession according to changes in the environment surrounding the accounting system in general and financial and management accounting in particular, which main example is the high technological and informational advancing developments, all that require serious reconsidering for the traditional financial and management accounting methods in the field of planning and control and evaluating performance, and the need to find new measures such as the customer's royalty and the ability to keep it , maintaining the workers satisfied and innovating . Since the used financial measures and traditional scales, are no longer sufficient to direct and evaluate how institutions work, it is the time to combine financial and non -financial measures as it happens in the Balanced Performance Card (BSC).

## FIRST: RESEARCH METHODOLOGY

### 1.1 Problem Statement

the majority of the Wasit Governorate districts are facing prblems with the applications of BSC when evaluating and measuring performance. Those units mostly use the performance evaluation traditional methods. So, in the light of the need for a new method, we can put the following question as the problem statement:

"To what extent the administrative units at Wasit Governorate are aware and understanding the significance of applying BSC technique in performance evaluation of their accountants and auditors? "

### 1.2 Research Significance

The importance of this study emerges from highlighting the the need of comprehending deeply the concept of balanced (BSC), and the urgent need for the practicing its style by the administrative units in assessing the performance of its

accountants and calculating its expenses on the one hand, and through the provision of new criteria related to customers, learning and growth on the other hand.

### 1.3 Research Objective

This paper aims to present a cognitive framework, mechanism that explain the possibility of depending on balanced scorecard (BSC) tool in professionally performance evaluation of accountants and auditors of the directorates and providing specific information to the administrative departments of Wasit Governorate / Iraq to support their decisions.

### 1.4 Study Hypothesis

The principal hypothesis of this study is formulated as follow:

(There is a positive statistically significant relationship and correlation between the application of the Balanced scorecard (BSC) and the professional performance of accountants and auditors' evaluation).

### 1.5 Study Population and Sample

The research population consists of accountants and auditors working at Wasit Governorate (public sector, private sector, mixed sector) represented by (General Directorate of Wasit Education, General Directorate of Wasit Health, General Directorate of the Municipalities of Wasit, Wasit Tax office, Agricultural Equipment at Wasit, Financial Supervision office, Oil Products Distribution Company in Wasit, Water and Settlement Directorate, General Communications and Informatics Company, Wasit University, General Electricity Distribution Company, Wasit Textile Industries Company, Iraqi Trade Bank, Water Resources Directorate, and Al Kut University College) . A total of (84) questionnaires were distributed, 71 questionnaires were complete and valid for analysis, that means (84.5%) of the total.

The main characteristics of the sample are:

#### A. By experience years: Table (1)

Experience	Total	20 years Or More	11-20 years	6 - 10 years	5 years or less
No.	71	11	17	19	24
%	100	15.49	23.94	26.76	33.8

#### B. By Educational level : Table (2)

Educational Level	Total	Ph.D Degree	Master Degree	Bachelor Degree	Associate Degree	High School
No.	71	10	21	34	5	1
%	100	14	29.57	47.88	7	1.4

#### C. By job title : Table (3)

Job Title	Total	Auditor	Accountant
No.	71	25	46
%	100	35.2	64.8

#### D. By gender : Table (4)

Gender	Total	Female	Male
No.	71	25	46
%	100	35.2	64.8

## Second : Literature Review

### 2.1 Previous studies review

1 - Alwan and Sayed Ahmed study (2023) . The study aims to measure the quality of accounting information using the balanced scorecard. It was conducted at Tikrit University in Iraq , the sample the main conclusion concluded that the basic requirements for the balanced scorecard are available at Tikrit University on the one hand and the quality of accounting information is high at the same on the other hand.The recommendation offered by the study was to start



applying the BSC technique the at the Department of Financial Affairs in the mentioned university, especially the its financial and customers dimensions.

2 - Mashkoo and Al-Attar study( 2017) . The stated goal of this paper is to review the balanced scorecard in general, administrative and financial corruption, , the relationship existing between the balanced scorecard , evaluating the performance of accountants, then exploring its impact on reducing financial and administrative corruption.

The study was carried out on a sample of . the study found that there is a good d encouraging environment for applying BSC on the one hand, and that the convenience of this card for the business environment of auditors and accountants on the other hand.

The study recommended that it is suitable for using the balanced scorecard by administrative units and advises on holding seminars, courses and training workshops to combat against the financial and administrative corruption phenomena.

3 - Al-Saadoun Study (2017). The study was conducted with the end of applying the balanced scorecard at Al-Qadisiyah University in order to discover the strengths and weaknesses in the in the different units of the university. The study ample was

The study' conclusions are in favor of using BSC because all conditions are present for application, also the the requirements for doing so are available , and the possibility of measuring performance using all the four dimensions is very high.

In addition, the study recommended that the university should evaluate its performance periodically, the Financial Control Office can easily adopt the BSC for the purpose of performance evaluation.

4 - Rafeeqa study ( 2017) .

The study main objective was identifying the evaluation mechanisms used in Algerian economic institutions, as tools of control. The study . The study sample The research main result was that the balanced scorecard represents a linking tool between the objectives of financial and non-financial institutions.

A recommendation about the necessity of adoption of the balanced scorecard measurement system in economic institutions as to measure and to evaluate its performance and control the same is presented .

5 – Sadiq study ( 2015) . The study shed light on the impact of using the balanced scorecard on the profitability in the Housing Bank for Trade and Finance / Jordan during the period 2004-2014. And to adopt the financial statements to understand profitability using the balanced scorecard.

The study sample consisted of The main conclusion reached was that there is a statistically significant impact of the financial dimension on the bank's profitability and on the rate of return on assets (ROA) . Also, it is recommended that the Housing Bank for Trade and Finance should focus on both financial and non-financial measures.

6 - Al-Hawatmeh study ( 2015) . The study aims to investigate the possibility of using the balanced scorecard in decision-making and rationalization in Jordanian commercial banks. The study sample is.

Investigating the the possibility of depending on the BSC in decision making and rationalization by Jordanian banks pariculaly the decision-makers, need some factors in order to make it easy to implement the balanced scorecard, which their impact rate weight reached 70.22%.

The study showed the urgent necessity for implementing this card in Jordanian banks and working hard to attract technical staff and qualified expertise to develop the ability of doing so.

7- Zahirul Hoque study (2014). The objective of this study was to review 20 years of studies conducted on balanced scored.

The paper discussed the accomplishments , trends , and explored the gaps that left by scholars and researchers and opportunities for future research. For this purpose, the researcher reviewed 114 papers published between 1992 and 2012 . He categorized them in three hed groups ,the first one of them is related to those papers that discuss theories, research methods, and techniques used in data analysis. The second is dedicated to the papers which researched the contributions and lessons learnt in this field. Finally, the third group is for those papers that explore the gaps left by researchers and could be a subject of to more investigation.

8- Great banks and Tapp study (2007). This article carried out by the authors in the public sector to exam in the impact of BSC within institutions working in the governmental agencies environment. It is a descriptive paper conducted in New Zealand in the public service city council. The principal outcome of the research was that the application of BSC supported the employees in appreciating their role and focusing on performance that enables the organizational strategy by generating positive influence on the achievement of goals set by the same organization.

9- Kaplan and Norton study (2000). A very important study written and published by the same inventors of BSC. Its core content is what they call the strategy maps, which was described by the authors as an essential in information era " when intangible assets – customer relationship , employee skills, the ability to innovate – are competitive advantages" . (Kaplan and Norton, 2000,P. 51)



The previous literature review is limited to the most important researches which helped the author a lot in understanding the theoretical framework and developing his knowledge about BSC system and how it works in the business organizations. Also, formulating the hypothesis then conducting the statistical analysis was done in the light of the discussions and procedures used in this literature and other reviewed papers.

## **2.2 Balanced Scorecard (BSC) and Theoretical Review**

The terminology balanced scorecard was introduced first in 1992, by David P. Norton and Robert S. Kaplan in their article published in Harvard Business Review entitled "The Energy of Balanced Scorecard: The Measures That Drive Performance". Their main idea was to use multiple financial and non-financial measures in performance evaluation, they suggested four dimensions: financial, customers, operations, learning and growth, so organizations should not depend on just financial criteria as they used to do. They assure that what you will measure is what you will get and not just what you got in the past. In other words, if you depend on financial indicators, you will get money, if you measure customers, you will get customer satisfaction, and if you measure the operations performance, you will get quality and time, and finally, if you measure learning and growth, you will get an innovative, effective, and efficient team. By this way, we understand that the BSC is an integrated performance system that can be more efficient than the single indicator used normally in performance measurement and evaluation. (Kaplan and Norton, 1992).

Reviewing the literature related to BSC we find a lot of opinions, papers, books, conferences that offered many definitions explaining the concept of the balanced scorecard. Kaplan and Norton defined it as a practical framework used as a basic approach that aims to improve current and future performance by depending on a number of measures that can be classified within four categories: the financial dimension, the customer dimension, the internal operations dimension, and the learning and growth dimension (Kaplan and Norton, 1992, P.2).

Kaplan and North (1996:2) define it as a practical framework used as a basic approach that aims to improve current and future performance by studying a number of measures within four categories: the financial dimension, the customer dimension, the internal operations dimension, and the learning and growth dimension.

Nevin considers it as a carefully selected set of quantifiable indicators derived from the organization's strategy, as these indicators represent a tool used by managers to communicate the organization's performance results to various stakeholders including employees, which enables it to achieve its mission and strategic objectives set previously by the same (Nevin, 2003, P. 31).

David also indicates that the balanced scorecard is (a technical evaluation and control strategy that derives its name from the need for organizations to combine their financial indicators, which are often used exclusively in evaluating strategy and control, with non-financial indicators of product quality, customer service, and internal learning and growth and innovation. (David, 2004, P. 1535).

Another explanation presented by Hussein looks more comprehensive, his study stated that the BSC is a system for measuring and evaluating strategic performance that includes both financial and non-financial indicators and covers the organization's dimensions: the financial, the customer, the internal operations, and the learning and growth (containing innovation). This definition allows it to be considered as an integrated measurement system that maintains financial measures of past performance and provides for future performance (Hussein, 2019, P. 46).

Summarising the previous points of view and for this paper purpose, we can derive a comprehensive outline for BSC as a strategic control methodology and a comprehensive measurement system whose goal is improving current and future performance. It includes different harmonized measures and indicators, financial and non-financial information, and covers four dimensions: the financial dimension, customer satisfaction, operations, and learning and growth, through which make it possible to identify whether or not the organization's goals are being achieved, and whether it is on the right track to achieve its future goals..

## **2.3 Benefits of using the balanced scorecard**

As a new method in the performance measurement and evaluation, the balanced scorecard is a strategic tool that enables the organization to get some important advantages when applied, the most important of which are (Sidqi, 2022, P. 258).

- 1 - Providing reliable results to senior management indicating that their strategic plans are being prepared and implemented effectively and efficiently, so they are economically in a good position.
- 2 - Presenting a clear picture of balance between the statements of past financial performance and other performance indicators of different aspects providing accurate information about the extent to which the organization has the bases of strategic excellence.
- 3 - Ensuring that the actual operational performance is fitting and consistent with the long-term strategy established by the organization.
- 4 - Contributing to successful reorganization or reengineering of the whole organization or some units in it by linking all sub-units in a whole and complete framework.



5 - Showing the cause-and-effect relationship of operational activities and its effects on the final outcome and results of the financial dimension.

6 - Addressing and then dealing with the shortcomings of traditional management systems used in in the organization or in some of its units due to their inability to simplify the strategy of the different economic units or the failure in mapping that strategy.

7 - Clarifying the organization's announced vision and developing performance styles in what is referred to management and measurement.

In summary, the benefits of using the Balanced Scorecard (BSC) stem from translating the company's vision into a good mission, and then into clear goals. Clarifying a vision and and formulating a strategy for each employee, then linking it to individual performance at all organizational levels, planning business in an effective manner, following up on each path to achieve the predetermined objectives , and finally modifying the strategy accordingly if necessary.

#### **2.4 The importance of the Balanced Scorecard:**

The importance of the Balanced Scorecard stems from the change that it made as anew form of performance evaluation and measurement on on hand , and the notable advantages it provides when it is applicated carefully. Generally, the significance of BSC can be listed as follows : (Blocher, 2010: 42)

1 – It is a way of tracking the progress towards strategic goals adopted by the organizations and their main units .

2 – Its role in implementing plans and policies through capturing managers' attention to strategically most prominent key success factors, so they can reward them employees and units for achieving these factors.

3 – It is considered as a framework for companies to be a guide for achieving the desired paradigm change in strategy and its future modifications.

4 –Clearing and illuminating the path to reach safely to the desired change clear to all , and not leaving any room for ambiguity and confusion

5 – It served as a fair and objective basis for companies to use determine and promote each manager's reward.

6 – It is a framework for coordinating all the efforts within the organization or its units to achieve key common success factors in different firms working in an industry .

7 – Enables managers to identify and to know with certainty how their activities and their leadership style contribute to the success of others, and stimulates teamwork.

#### **2.5 Balanced Scorecard (BSC) Attributes and Dimensions**

The Balanced Scorecard technique has some different traits that distinguish it from others , the most salient of them are :

- It is strategic, often long-term, clear, and measurable.

- It consists of a group of initiatives and sub-projects that lead to goals' achievement.

- It has the ability of acting as an action plan transforming specific concepts into practical actions over a previously determined period of time.

Speaking about the Balanced Scorecard metrics, they are included in four dimensions:

1- Financial dimension, which is related to financial performance (profitability and cash flow), sales growth, maximizing revenues, and minimizing expenses.

- Customer dimension, which contains customer value, satisfaction and loyalty to retain them through the services provided to them.

- Operations, which is concerned with the quality, efficiency of implementing, and operations' optimization.

- Learning and growth, which is represented by developing human resources, developing infrastructure, and technological innovation.

Finally, it is important to mention the mutual effects between all our dimensions.



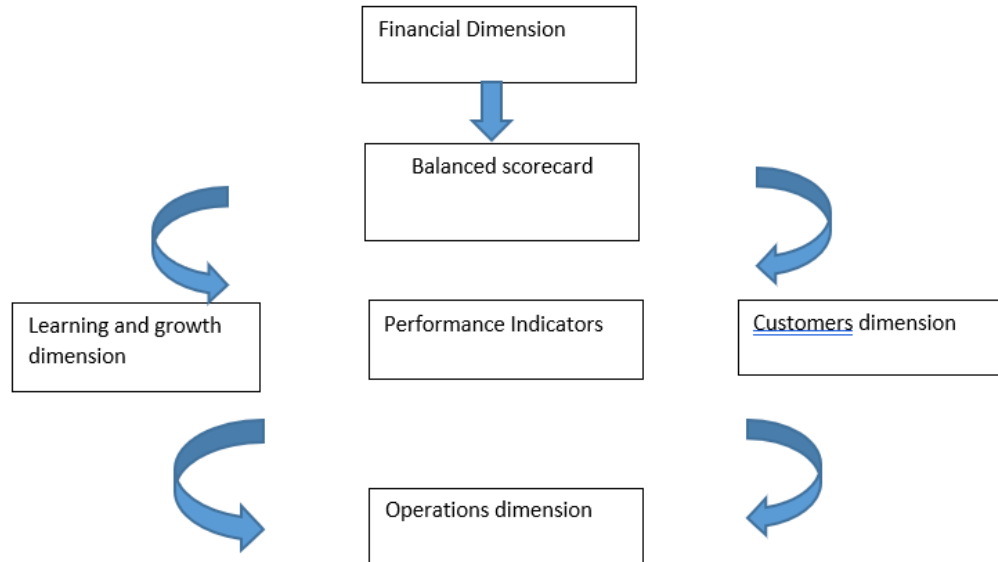


Figure (1): Balanced scorecard

## 2.6 Common auditing standards:

1 - **General standards:** these standards REL contains the auditor's qualifications and the quality of his work and consists of three sub- standards: (Raw'i: 2017: 21-24)

- The academic and practical qualification and professional competence.
- Being independent.
- Professional care.

2 - **Field work standards:**

- Adequacy of planning and supervision.
- The internal control system evaluation.
- The sufficiency of evidence.

3 – **Report preparation.** It is the core of the auditing process, and the auditor normally use one of four forms to express his opinion:

- Clear and free opinion.
- Restricted opinion.
- Adverse opinion.
- Abstention.

There are international auditing standards issued by the International Auditing Practices Committee ( IAPC) which ia an independent committee established in 1978 , since then it has issued more than 4000 standards until 2003, these standards are classified into the following groups:

Group 1: - Preliminary matters ( Standard 1 to Standard 199 ).

- Group 2: - General principles and responsibilities ( Standard 200 to Standard 299 ).

- Group 3: - Evaluation and assessing errors ( Standard 300 to Standard 399 ).

- Group 4: - Internal control ( Standard 400 to Standard 499 ).

- Group 5: - Evidences ( Standard 500 to Standard 599 ).

- Group 6: - Benefiting from the work of others ( Standard 600 to Standard 699).

- Group 7: - Auditing results and reports ( Standard 700 to Standard 799).

- Group 8: - Specialized areas (Standard 800 to Standard 899 ).

- Group 9: - Related services ( Standard 900 to Standard 999 ).

- Group 10: - International statements for the audit profession ( Standard 1000 to Standard 1100 ).

- Group Eleven: - International Standards for Review Engagements ( Standard 2000 to Standard 2699 ).

- Group Twelve: - Application to all assurance processes ( Standard 3000 to Standard 3399 ).

- Group Thirteen: - Related services ( Standard 4000 to Standard 4699 ).



As for the accountant, he is the person who tracks business transactions and financial records with the purpose of issuing financial statements and judging the company's performance related to the financial level.

Accountants use their knowledge of mathematics, law and financial management to provide business owners or stockholders and investors with comprehensive details about the organization's performance to see the whole picture. They work for the large institutions, small institutions and also for individuals.

The accountant's role has many aspects, the most notable of them include the following:

- 1 - Issuing invoices to customers.
- 2 - Tracking operations.
- 3 - Recording expenses and invoices from suppliers.
- 4 - Tracking debts.
- 5 - Transferring funds between accounts to pay bills.
- 6 - Maintaining bank statements.
- 7 - Creating financial statements, including income statement, balance sheet and cash flows.
- 8 - Analyzing and reviewing budgets and expenses.
- 9 - Issuing profit and loss statements.
- 10 - Finalizing and preparing tax returns.
- 11 - Compiling and following general ledger accounts.
- 12 - Resolving accounting discrepancies.
- 13 - Maintaining financial databases and software systems.

## **2.7 Accountants and Auditors' Professional Performance**

The American Accounting Association (AAA) defined auditing as the completion of an organized process objectively collecting, evaluating evidence of the operation's results and economic events of the project in order to verify the extent to which these results conform to the established and fully accepted standards, then to communicate the outcomes to the adequate parties (Al-Fayoumi: 1998: 11).

Financial auditing, is about obtaining evidence to prove the correctness and accuracy of the numbers appearing in these financial statements and their consistency with generally accepted accounting principles and other comprehensive accounting foundations. So, the auditor's work here is limited to examining the accounts appearing in the financial statements and giving his opinion on the same. Doing this work he is charged of examining all justified documents. Also, It is necessary to rely on the system applied and the sample documents, which is the set of guarantees that contribute to controlling the institution, then by evaluating this system, he can determine the extent of its safety and at the same time the safety of the entire accounting system .By this way, he can judge all the set of accounting operations, even he was satisfied with studying a sample of decisions (Rawai: 2017: 16).

Based on the above, auditing is an organized process that depends on objectivity in collecting and evaluating evidences concerning the outcomes of the operations and economic events of the institution by matching those results with the established and fully accepted standards and communicating the results to the designated parties, all this is carried out by the auditor. As for the accountant, his work is effective by tracking business transactions and financial records to issue financial statements and determine the company's performance at the financial level. We can summarize the forementioned ideas in that This means that both (the accountant and the auditor) must show a professional behavior and ethics and have good qualities and a good reputation , all this is reflected in everything within their job.

## **THIRD : STATISTICAL ANALYSIS AND RESULTS DISCUSSION**

### **3.1 Descriptive Statistics**

The questionnaire used in this study for the purpose of information gathering consists of (18) statements related to both variables . The first is the independent variable (X), that contains (10) statements measuring this variable (achieving the strategic goals of administrative units applying the balanced scorecard technique). The second part of the statements is dedicated to the dependent variable (Y), which included (8) statements and was related to (measuring the professional performance of accountants and auditors using the balanced scorecard). A scale of 5 grades is used ( Likert Scale) , and the SPSS package

**Table (5) : One-Sample T: Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, X**

Test of  $\mu = 3$  vs not  $= 3$

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>StDev</b>	<b>SE Mean</b>	<b>95% CI</b>	<b>T</b>	<b>P</b>
<b>Q1</b>	71	3.30986	1.29385	0.15355	(3.00361, 3.61611)	2.02	0.047
<b>Q2</b>	71	3.98592	1.07561	0.12765	(3.73132, 4.24051)	7.72	0.000
<b>Q3</b>	71	4.12676	0.92473	0.10975	(3.90788, 4.34564)	10.27	0.000

<b>Q4</b>	71	4.04225	1.00622	0.11942	(3.80409, 4.28042)	8.73	0.000
<b>Q5</b>	71	3.53521	1.26300	0.14989	(3.23626, 3.83416)	3.57	0.001
<b>Q6</b>	71	3.88732	1.15325	0.13687	(3.61435, 4.16029)	6.48	0.000
<b>Q7</b>	71	3.80282	1.15412	0.13697	(3.52964, 4.07599)	5.86	0.000
<b>Q8</b>	71	3.94366	1.19388	0.14169	(3.66107, 4.22625)	6.66	0.000
<b>Q9</b>	71	3.50704	1.41293	0.16768	(3.17261, 3.84148)	3.02	0.003
<b>Q10</b>	71	3.57746	1.46055	0.17334	(3.23176, 3.92317)	3.33	0.001
<b>X</b>	71	3.77183	0.78343	0.09298	(3.58640, 3.95727)	8.30	0.000

**Table (6) : One-Sample T: Q1\_1, Q2\_1, Q3\_1, Q4\_1, Q5\_1, Q6\_1, Q7\_1, Q8\_1, Y**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>StDev</b>	<b>SE Mean</b>	<b>95% CI</b>	<b>T</b>	<b>P</b>
<b>Q1_1</b>	71	4.01408	1.17708	0.13969	(3.73547, 4.29269)	7.26	0.000
<b>Q2_1</b>	71	3.76056	1.22433	0.14530	(3.47077, 4.05036)	5.23	0.000
<b>Q3_1</b>	71	3.95775	1.13938	0.13522	(3.68806, 4.22743)	7.08	0.000
<b>Q4_1</b>	71	3.88732	1.06301	0.12616	(3.63571, 4.13893)	7.03	0.000
<b>Q5_1</b>	71	3.95775	1.10112	0.13068	(3.69711, 4.21838)	7.33	0.000
<b>Q6_1</b>	71	3.73239	1.24163	0.14735	(3.43850, 4.02628)	4.97	0.000
<b>Q7_1</b>	71	3.91549	1.16798	0.13861	(3.63904, 4.19195)	6.60	0.000
<b>Q8_1</b>	71	3.45070	1.39170	0.16516	(3.12129, 3.78011)	2.73	0.008
<b>Y</b>	71	3.83451	0.82098	0.09743	(3.64018, 4.02883)	8.56	0.000

Test of  $\mu = 3$  vs not

### 3.2 RESULT DISCUSSION

(T) test was conducted to test hypothesis (H<sub>0</sub>)  $3 = \text{mean}$  (neutral weighting degree). The (T) selection statistic for each mean (to collect the questionnaire items) showed statistical significance because the probability value (P) associated with each (T) selection statistic were all less than the significance level (5%), which means rejecting the null hypothesis (H<sub>0</sub>) and that all means differ from the hypothetical mean (3). The confidence limits at a significance level of 95% showed that all the lower and upper limits of the categories were positive, which enhances the significance of the (T) test for these means. It also showed that all means for all paragraphs were higher than the hypothetical mean (3) neutral, which enhances that the tendencies of those who were surveyed were towards (agree and completely agree).

#### 3.2.1 Testing and analyzing the correlation between both variables X, Y ( Person Correlation)

To verify the validity of the study hypothesis , the correlation coefficient between the research variables (X, Y), is calculated where (X) is the independent variable and (Y) represents the dependent variable. This will help in determining the type of relationship . Using the statistical package (SPSS) , the correlation coefficient (Person) is shown in Table (7)

Table (7)

<b>Independent Variable X</b>	<b>Dependent variable Y</b>
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	Correlation coefficient	<b>0.741</b>
	P.value	<b>0.000</b>

The (T) test for the Pearson correlation coefficient between both variables means a high significance

### 3.2.2 Testing and analyzing the regression relationship between the the two study variables

A simple linear regression was fitted to show the effect of the first variable (X) on the second one (Y) by using the same statistical package (SPSS), we got the following estimated equation for the regression line that shows:

$$Y = 0.904 + 0.777X$$

**Table (8) : Variance Analysis**

Source	DF	SS	MS	F	P
Regression	1	25.936	25.936	84.24	0.000
Residual Error	69	21.244	0.308		
Total	70	47.180			

The significance of the simple regression model is proved because the (F) in the table appeared with a value of (84.24) and a probability of (0.000), which means that the relationship is significant for the effect of the variable (X) on the variable (Y). This enhances the selection of the estimated parameters for the regression model, which are presented in Table (8). The significance of the statistical test for all the two parameters  $B_1 = 0.777$ ,  $B_0 = 0.904$  respectively, and in fact it is much less than the statistical significance level (0.01), which demonstrates the significance of the estimated parameters, then the significance of the effect of the independent variable (X) on the dependent variable (Y) the second variable.

**Table (9) : Regression Analysis**

**The Regression equation is**

$$Y = 0.904 + 0.777X$$

Predictor	Coet	SECoef	T	P
Constant	0.9039	0.3260	2.77	0.007
X	0.77697	0.08465	9.18	0.000
S=0.554873		$R^2=59=55\%$		R-(adj)=54.3%

The determination coefficient  $R^2$  reached a value of 0.55, this means that the variable (X) was able to change 55% of the total changes that occurred in the dependent variable (Y), which is a good percentage that reflects the goodness of the significance of the estimated model.

Figure (2)

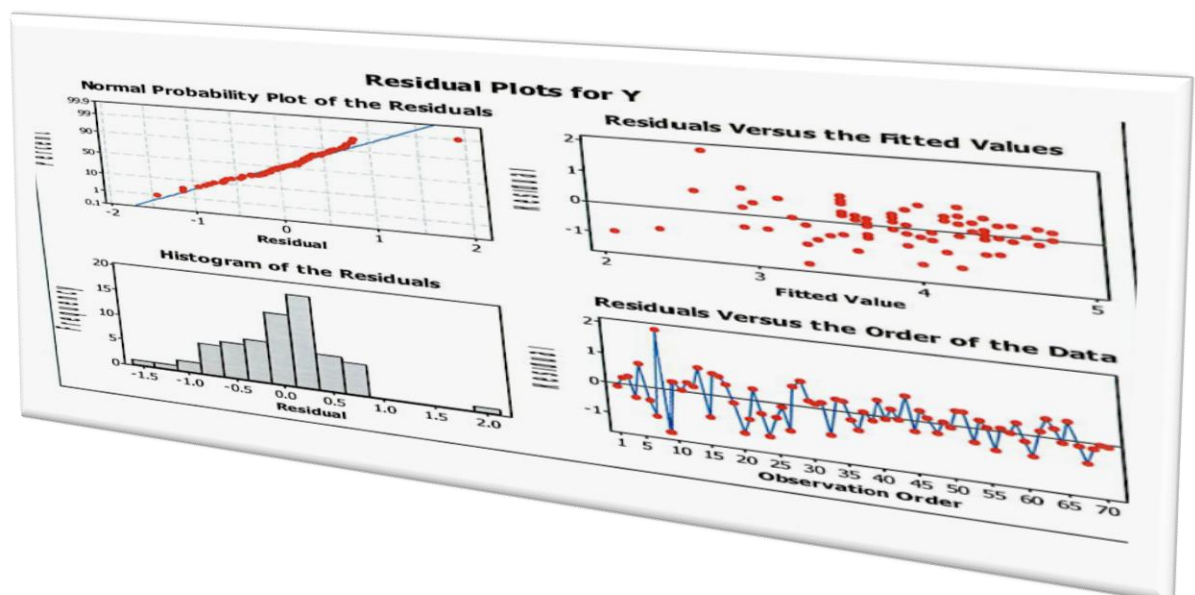




Figure (2) shows several forms of drawings related to the model residuals, through which we can see the accuracy of the estimates that were obtained in estimating the regression mode, thus they reflect how high is the possibility of depending on these estimates in withdrawing conclusions and then offering the recommendations. In other words, how credible and acceptable are our estimates?

The figure in the upper left explains the natural probability drawn of the model residuals, which shows that most of the residual points were close and very close to the hypothetical natural line, which reflects a good property of the model residuals.

The figure in the lower left shows the residual histogram, which shows its approach to the normal distribution in a mean of (zero) and constant variance, which is another good sign and a desirable property for the model.

The third figure in the upper right part reflects the spread of the residuals for the original values of the dependent variable (Y), which gives a random spread around the zero line, which reflects the homogeneity of the error variance around the zero line, which is a third positive property in validating the model.

The last figure in the lower right, reflects a plot of residuals versus data order in ascending order, which is a random, non-increasing plot around the zero line, This means that there is no correlation of residuals with model variables, which is a good positive feature that adds to the good properties of the model. In conclusion, the figure reflects a good accuracy of the model variables that can be used in explaining the study outcomes.

As a final observation, it could be concluded that the four figures are showing the good accuracy of the model and the fitting of its variables, which means that we can rely upon the results to draw our conclusions and to suggest the adequate recommendations.

#### **FOURTH : CONCLUSIONS AND RECOMMENDATIONS**

##### **4.1 Conclusions**

Completing the statistical test and the insights drawn from the previous analysis and comments, the author have drawn some conclusions that will be stated as follow:

- 1 - It is possible to depend on the balanced scorecard in institutions, companies and administrative units in Wasit Governorate as an integrated tool evaluate their activities' performance as the main requirements are available.
- 2 - There exists a high variation of view points about the use of the balanced scorecard between administrative units, institutions and companies operating in Wasit Governorate, but most of them depend on traditional methods to do the performance evaluation process.
- 3 - The balanced scorecard represents a comprehensive system for measuring and evaluating performance efficiently, and it looks highly flexible. This flexibility is reflected in the possibility of adding or deleting criteria, in addition to being an effective control tool in management and operations.
- 4 - There is a statistically significant positive relationship between the balanced scorecard dimensions of performance evaluation and the process of performance evaluation of accountants and auditors in administrative units and workers in institutions and companies in Wasit Governorate.
- 5 - A positive correlation coefficient between both variables showed a value of (0.741) and a probability (0.000), which means a high significance of the correlation between the mentioned variables.

##### **4.2 Recommendations**

In the light of the results and conclusions reached above, the author presents the following recommendation to the managers and staff in the units investigated:

- 1 - It is necessary to all units, institutions, and companies operating in Wasit Governorate, make the BSC system as a part of its organizational culture, and some decisions must be taken in this by senior management in this regard.
- 2 - It is advised to provide some cognitive environment and professional culture training courses to develop the environment and professional culture for all workers in all public units sample of this study in order to raise their efficiency and skills, especially accountants and auditors.
- 3 - It is of high importance to review and to update the Iraqi accounting rules and the unified accounting system and its explaining instructions in accordance with the international accounting rules and standards. Also, it is important to call on the academics and specialists to support and teach the contemporary systems like BSC and to use them as evaluation methods.

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